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AEGINETIA INDICA L. VAR. GRACILIS NAKAI

Kyushu Nogyo Kenkyu (Association
of Kyushu Agricultural Research,
No. 18, 1956, p. 43-44

S. Ouchiya
and M. Sako

The existence of Namban giseru ["Southern Barbarians' pipe"; no common English equivalent/ as a plant harmful to sugar cane has long been recognized in Southern Asia, but no reports on it have been encountered in our country. No cases of damage by Namban Giseru were previously reported even in Taneshima, but an invaded canefield was discovered in 1955, and since we had the opportunity to investigate the conditions there, we herewith present a general outline for general reference. We wish to express our thanks to Dr. Oi Jisaburo of the National Science Museum for his troubles in evaluating the basic species and to Sakamoto Shigeru and Messrs. Shibatei and Hidaka (Yoshinori) for their cooperation in the research.

The Properties of Namban Giseru

Namban giseru is an annual parasitic grass of the Orobanchaceae family. It is a parasite to Japanesepampas grass (Miscanthus sinensis), sugar cane, Zingiber mioga, etc. Its stem is short and hardly emerges above the ground. It branches out producing a few narrow triangular ramments 5 to 10 mm long with four or five straight spikelets. It is banded red, "hairless," slightly fleshy and produces a single light, red-violet flower 3-5 cm long. The calyx is keel shaped and 2-3 cm long. The tube of the corolla is long and the lobes are somewhat fleshy and elliptical. The capsule is 1-1.5 cm long with several thousand seeds per capsule. The parent species, Taiwan giseru, is larger and grows in the Ryukyus, Taiwan, India and Malaysia.

Damage condition of sugar cane

The area studied was a field with dimensions 1 tan 2 mo-ho, slightly inclined eastward of Haru no Oda, Anno aza, Nishinoura-cho, Kumage-gun, Kagoshima Prefecture. The type was 2725 POJ. They were new plants, grown 3 x 1 shaku apart. The farmer, Michio Nakasono, reports that the attack began in the first third of September, but he did not know the route of invasion. Damage was extensive in the eastern sector, and the northwest corner of the field when observed at the end of November which was the beginning of the ripening period for the sugar cane. Almost no growth of Namban giseru occurred in the southwest sector. On November 22, two areas were selected -- one an area in which namban giseru was not growing and the other an area in which its growth had occurred. 15 strains were planted in each area on 30 sugar canes. The state of growth of Namban giseru and the results of investigation of the attacked sugar cane are shown below in the table. Several withered stems which had sustained especially severe damage were observed.

Conclusion

Owing to the parasitic attachment of Namban giseru, the stalk and stem diameter of sugar cane decreases, and the decrease in the number of living leaves and sweetness is marked. The influence of this species on sugar cane cultivation is especially great, so special attention must be focused on how it grows and how to eliminate it. According to Kiriu Chijiro, the methods of elimination are as follows: (1) flooding one week prior to emergence above ground; (2) collection and burning or burial before blooming; (3) prohibition of transplants from affected cane fields; (4) early harvest; (5) burning of withered leaves and capsules after harvest.

References

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Table 1

Item	Namban giseru on 30 sugar canes			Growth and sweetness of sugar canes							Brix
	No. sur- viving	No. of withered	Total No. per cane	Stalks	Length of stem	No. of living leaves	Stem diameter				
							Top	Center	Bottom		
				cm	cm		cm	cm	cm		
All healthy	0	0	0	170.6 +2.068	109.5 +1.552	6.74 +0.098	2.56 +0.029	2.87 +0.027	2.93 +0.026	11.79 +0.243	
Damaged portion	48	97	145	151.1 +1.869	106.4 +1.756	2.86 +0.101	2.21 +0.020	2.64 +0.025	2.84 +0.028	7.43 +0.169	
Difference	--	--	--	19.5 +2.787	3.1 +2.344	3.88 +0.141	0.35 +0.035	0.23 +0.037	0.09 +0.038	4.36 +0.296	